UTILITIES ASSESSMENT

GENERAL

The Camp Roberts Director of Public Works (DPW) operates all utility systems on post including electrical, natural gas, water, and sanitary sewer-distribution systems. The DPW also operates a sanitary landfill operation on the installation. Utility service is provided by both the installation and by commercial suppliers. The Camp Roberts water and sewer systems are standalone capabilities. Commercial networks provide the electrical and natural gas supplies.

INFRASTRUCTURE CAPACITY / SUMMARY CONDITIONS

There are no infrastructure limitations in terms of available supplies that would restrict the performance of the installation mission and provision of necessary support to the assigned force structure.

The overall network at Camp Roberts is in relatively good condition, although the infrastructure is aging. A comprehensive, phased replacement of all infrastructures in association with new capital improvement projects is needed. The existing distribution lines will serve until the transition to new infrastructure is complete.

Future infrastructure planning and design should be associated with programmed capital improvement projects. The total replacement of installation infrastructure should be closely phased and completed to serve the capital projects that require modern, capable utility systems and capabilities. The future infrastructure distribution networks should be planned with two overall concepts at the forefront: establishment of managed rights-of-way that are strictly reserved for circulation and utility improvements (main distribution lines, valves transformers, etc.) and creation of utility networks that are built and designed with eventual privatization in mind. Essentially, the planned infrastructure should be built to current private standards and utilize private standards regarding rights-of-way, maintenance, and management.

ELECTRICITY

Electrical service is provided by Pacific Gas and Electric (PG&E). The electrical source comes from the Oil Fields Substation 15 miles to the north of Camp Roberts. Two main points of connection serve the installation. There is a primary switching station on the installation, with a 12 kilovolt-amperes (kVA) distribution and transformer step-down capability. The distribution network is government-owned and maintained on the installation. The electrical distribution is on overhead lines, except at the Regional Training Site-Maintenance. Main electrical lines run adjacent to Oregon Blvd., New Mexico Blvd., Arizona Blvd., Washington Blvd., and Industrial Avenue in the Director of Logistics (DOL) area. Smaller lines service individual buildings and are outlined in a grid pattern. Poles and crossarms have been replaced, as have 90 percent of the transformers.

Proper disposal of the old transformers is required by law because of the hazardous material (PCBs) contained inside. Electrical insulators could also pose a disposal issue, due to lead abatement requirements.

The proposed project will result in an increase in electrical consumption. The exact amount of additional electricity required is difficult to estimate, as the redevelopment plans are preliminary. No definite redevelopment plans have been approved.

Pacific Gas and Electric has developed plans to reduce energy consumption. The Camp Roberts staff should work with PG&E to implement energy savings programs, such as using natural lighting and off-peak cooling for the new buildings.

Future development on post should consist of underground distribution. Underground lines should parallel the proposed road network to allow unconstrained repairs or improvements that may be required in the future.

NATURAL GAS

Natural gas is provided by commercial contractor (Southern California Gas). The pressure is reduced at Propane Plant No. 1. Plant No. 1 is also the point of connection. The natural gas-distribution system at Camp Roberts is the newest utility system; however, most of the existing system is not in good condition. From the connection point, distribution lines run underground along Montana Blvd., Arizona Blvd., and D Street in the DOL area. Many lines splinter off into smaller areas and serve individual buildings.

Photo 1
PROPANE PLANT NO. 1

New natural gas mains will be required to accompany new development. All new lines and gas distribution mains will be constructed in accordance with the company's policies and extension rules on file with the California Public Utilities Commission and Federal Regulatory agencies.

WATER

The water system mains are in excellent condition. The mains are constructed of Transite pipe (asbestos-based) that has an extended life-cycle. A loop distribution system is used for water supply. A number of new valves are located in the project area. Approximately one-third of the water main shutoff valves have been replaced. A new 8-inch Class 80 water main extends to the East Garrison from the 7000 area across the Salinas River.

The installation supports three 650,000-gallon water tanks that support the potable water supply and fire suppression system. All hydrants have been replaced. They are located throughout the project area to support fire suppression. The static pressure in the water system is between 105 and 125 pounds per square inch (PSI).

Camp Roberts has 32 wells in its water system. The newest well is not yet online. There is no infiltration from regional farming activities into the aquifer supplying the installation. It is anticipated that the water capacity is nearly unlimited to support the installation mission, including the 20,000-troop mobilization mission. Ultimately, six wells will support the installation. Twenty-six wells will be abandoned. There is no upper limit on extraction of groundwater to support the installation mission.

The water distribution on site is impacted by water-seeking tree roots. The use of rights-of-way and setbacks will help manage the tree root issue.

The installation will require a water treatment plant (WTP) and wellhead filtration capability within the next 15 years. Camp Roberts operates a water treatment facility that chlorinates well water at the wellhead. This plant does not provide true treatment plant capabilities, as there is no filtration provided. The need for groundwater filtration is minimal.

Redevelopment of the main cantonment and East Garrison will cumulatively result in increased demand for water on Camp Roberts. The existing water lines would not be sufficient to support the redevelopment. A new water distribution infrastructure will be required to support the redevelopment of the installation.

The following water conservation measures are desirable:

- Low-flush toilets
- Low-flow showers and faucets
- Insulation of hot water lines in water recirculating systems
- Maximization of “Grey water” usage, with integral small-scale filtration
- Native vegetation for landscaping, or use of xeriscape design
- Use of recycled water for landscaping
- Compliance with water conservation provisions of the appropriate plumbing code

SEWER

Camp Roberts operates a wastewater treatment plant (WWTP) located adjacent to the Salinas River. Wastewater is treated by clarification, biofilteration, and sterilization and is land discharged to clay-lined percolation beds. The installation WWTP is designed to operate at a million gallons per day (MGD) and is capable of supporting 2 MGD within its design capacity. A gravity flow sewer connects to the local municipal sanitary sewer system.

Photo 2
CAMP ROBERTS WASTEWATER TREATMENT PLANT (WWTP)

The sewer system is distributed throughout the project area in a grid pattern that services all developed areas and most buildings on the main cantonment. There are a few buildings in the DOL area not directly serviced by the sewer lines. These buildings consist primarily of warehouses.

The sewer distribution on site is impacted by water-seeking tree roots. The use of rights-of-way and setbacks will help manage the tree root issue.

The sewer line that serves the East Garrison is suspended as it crosses the Salinas River. This line was lost due to flood flows in the mid-1990s. A combined vehicular and sewer-line bridge over the Salinas River is a possibility. The feasibility of this proposal is dependent upon the elevations of the sewer manholes at the East Garrison. Two sewer lift stations are needed to serve the East Garrison. An alternative would require the installation of a septic system to serve the East Garrison, should soil conditions permit.

The available sewer capacity is adequate to support the installation mission. The digester and digester building at the wastewater treatment plant (WWTP) require upgrades. The WWTP shall be upgraded for capable recycling of sewage effluence for future landscaping needs.

STORM DRAINAGE

The storm drainage system consists of a combination of natural surface drainage courses and underground piping. Storm drains have the potential to contain asbestos. Removal and disposal of contaminated material shall be done properly.

The storm flows exhibit extreme peak flows. The swales require cleaning and widening to accommodate peak flows. Redevelopment will increase the amount of impervious surfaces, which will dramatically increase stormwater runoff. Check dams, rock-lined courses, and revegetation will decrease the flow rate of the runoff and reduce potential erosion.

Future culverts must be a minimum of 36 inches in diameter and designed specifically to serve tributary areas and historical amounts of rainfall. The storm drainage system discharges into the Salinas and Nacimiento Rivers. Prior to discharge, nonstormwater runoff from parking lots, especially maintenance and GOV compounds, will run through an oil / water separator. Stormwater discharge will comply with the requirements imposed by the National Pollution Discharge Elimination System (NPDES) permit. In addition, Camp Roberts will implement other Best Management Practices to increase the surface water quality in the area.

SOLID WASTE MANAGEMENT

All solid waste on Camp Roberts is collected by DPW personnel and deposited in a sanitary landfill located south-southwest of the main cantonment. The landfill is categorized as a Category III facility by the California Waste Management Board. The site has an estimated 40,000-cubic-yard capacity. Redevelopment efforts will initially increase the disposal rate as buildings are demolished and existing facilities are gutted. Future disposal rates are unknown. Therefore, the life span of the landfill cannot be estimated, although the landfill is estimated to be near capacity. A replacement landfill project is anticipated.

Consultation with the Central Coast Water Control Board is recommended.

FUEL STORAGE AND ISSUE

GENERAL

Camp Roberts stores and issues fuel in support of its training mission: airfield operations, convoy fueling requirements, unit vehicle fueling, installation operations, vehicle maintenance activities at Organizational Maintenance Shop (OMS) #21, and staging and recovery operations at the mobilization and training equipment site (MATES). The fuel operation supports the federal and state missions of Camp Roberts. The federal mission is associated with operation of the training site. The state mission is related to military support to civilian authorities (MSCA). The MSCA mission is a growing part of the installation workload as recent years have included several significant natural disasters. The potential interruption of the state's fuel supplies by contingencies raises concerns that the on-site fuel storage capacity is inadequate for times of crisis.

The central location of Camp Roberts is ideal for fueling convoys traversing the state, as well as for support of aviation operations. The current fuel storage capacity is insufficient to support the average training weekend usage, much less contingencies where regular fuel deliveries may be interrupted for lengthy periods of time.

EXISTING FACILITIES

Class III petroleum, oil, and lubricants (POL) supply is handled from the fuel farm at the south end of the parade ground. Additional fuel is issued at the Camp Roberts MATES. The main fuel point contains four 20,000-gallon JP8 tanks, two 10,000-gallon JP8 tanks, and one 20,000-gallon motor gasoline (MOGAS) tank. A single 20,000-gallon JP8 tank is on the East Garrison.

Photo 3
MAIN FUEL POINT

The fuel facility at the MATES has two 10,000-gallon diesel tanks, one 5,000-gallon diesel tank, and one 5,000-gallon MOGAS tank. This facility serves internal MATES requirements. The fuel facilities, constructed in the early 1990s, are adequate to support current demand; however, the storage capacity is not.

The Camp Roberts fuel operation provides the following products: red dye diesel, white diesel, motor gasoline (MOGAS), and JP8.

Rail transshipment of fuel to the fuel farm is more desirable than truck transshipment. A railcar holds approximately 70,000 gallons of fuel versus 7,700 gallons per fuel tanker. Rail offers operational efficiencies and increased safety.

ISSUES

- Fuel Storage: A contingency fuel supply has been identified as a priority improvement. This additional fuel storage capability would ensure continuity of CAARNG service during emergencies when the Guard is performing its MSCA mission.

- An additional 50-to 100-thousand gallons of JP8 tank storage are desirable. Demand for this type of fuel is growing.

- Fuel Issue Facilities: An expansion of fuel storage and issue capacity at the MATES may be desirable to fully fuel vehicles as they are staged for training.

- The current fuel facility requires reconfiguration to support sufficient staging areas for vehicles. Approximately one-half mile of roadside is needed to stage the vehicles.

- One 50,000-gallon JP8 tank at the Camp Roberts airfield is needed for hot refueling operations. In addition, fueling capabilities may require support at the McMillan Assault Strip to fuel C-130 Hercules transports.

- Operational Recommendations: Camp Roberts' participation in the US Army capitalization program for fuel operations has been identified as a positive operational improvement. The program promotes streamlining funding sources and transactions for fuel issue, enhances operational efficiencies, and improves cash flow for local issuers of petroleum products.

COMMUNICATIONS

GENERAL

Camp Roberts has extensive telecommunications capability; however, the future usability of the network is not assured. All strands of fiber were recently tested.

The overhead distribution and cabling is in decent condition within the cantonment. Fiber optic cable provides communications to the Range Control Office. The ranges are served by older, outmoded cabling. An eventual phased replacement is desirable, but extending a reliable distribution to the range complex is a higher priority. Pacific Bell telephone company is the provider of local telephone service. Cal Net is the long-distance provider.

NETWORKING CAPABILITIES

A major issue impacting telecommunications capability is that new communications lines and network capabilities are not installed as a matter of course within new projects. This is an infrastructure and business practices issue. Other issues include the shortage of telecommunications and networking staff to maintain capability. Fiber and telecommunications capabilities must be incorporated into new smart buildings that provide integral voice and data networking, set aside dedicated space of cable runs, and provide equipment rooms. Networking administrative enhances the capability and supply functions, provides communications closets, and reserves the ability to pull fiber at will. Approximately 100-pair per building should be adequate to support foreseeable requirements. Any new construction or renovation should incorporate smart building technologies into the design up front in the programming and construction cycle.

The Information Management Office is not responsible for tactical networking; however, the organization interfaces with the 240th Signal Battalion. Permanent nodes must be installed within each battalion block to provide interface with the tactical network. Additional distribution to tactical trailers in a bivouac area and simulation distribution through the tactical network are future capabilities that must be planned.

Wireless networking is the clear wave of the future. The RPDP may discuss emerging technology issues and their impact on infrastructure planning and investments. It is not felt that fiber versus copper is the true issue. In order to anticipate evolving technologies and equipment requirements, network flexibility is the critical consideration.

LOCAL AREA NETWORK (LAN) ISSUES

The local area network (LAN) is housed in building 106 along with the Information Management Office. The switchgear is in building 109. These components must be collocated in the future. Sub-hubs are installed at Range Control (building 14301), the industrial complex (building 904), and at the MATES. The LAN supports lengthy multimode runs on the current network. A replacement of the current 850 nanometer (nm) with 1300nm capability will extend the life of the LAN distribution.

Camp Roberts operates a standalone Range Facility Management Support System (RFMSS) on a WinFrame server. An upgrade to an NT server is in process, with an eventual move to a Web server. The RFMSS will eventually be added to the reserve component automation systems (RCAS) backbone.

Camp Roberts also operates the Installation Support Module (ISM) in support of its mobilization mission. The ISM is essential for mobilization. The ISM includes the INPROC, PENTAB, and OUTPROC modules.

RESERVE COMPONENT AUTOMATION SYSTEM (RCAS)

Camp Roberts is a large site for the RCAS fielding for this year. Boeing will install the RCAS terminals and equipment at Camp Roberts.

OTHER COMMUNICATIONS ISSUES

Camp Roberts will not field distance learning, as the RTS-M will provide the capability.